

**LOW-TEMPERATURE FABRICATION  
OF THIN-FILM ENERGY-STORAGE DEVICES**

**Abstract of the Disclosure**

- 5           A method and system for fabricating solid-state energy-storage devices including fabrication films for devices without an anneal step, especially a cathode anneal of thin-film batteries. A film of an energy-storage device is fabricated by depositing a first material layer to a location on a substrate. Energy is supplied directly to the material forming the film. The energy can be in the form of
- 10 energized ions of a second material. Supplying energy directly to the material and/or the film being deposited assists the growth of the crystalline structure of film. For lithium-ion energy-storage devices, the first material is an intercalation material, which releasably stores lithium ions therein. Supercapacitors and energy-conversion devices are also fabricated according to the methods.

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